Technical Questions Posed by Basin Advisory Panel
August 14, 2006

At its first meeting, the Basin Advisory Panel was asked to identify technical questions related to managing groundwater in the Sonoma Valley. This list will assist the project manager and technical consultants to prepare technical presentations and think through data gaps. The technical questions will be addressed in future Panel meetings.

USGS Study
- Data uncertainties of current study and future priorities for future studies
- Data deficiencies
- Status of aquifer now: overdraft, demand and capacity for recharge
- Define safe yield
- Elaborate when USGS study says "equilibrium" between extraction and recharge
- Substantiate percentage that agriculture is using for irrigation

Aquifer and Geology
- Improve understanding of the aquifer in the next year
- Trends and changes in levels since 2000 study
- Geology of the north and south parts of the Valley
- Number of aquifers
- Vulnerability to earthquakes
- Water moving through creek banks
- Relationship between groundwater and surface water

Recharge
- Sonoma Valley watershed recharge
- Where recharge occurs or comes from
- Recharge acreage changes over time
- Recharge benefits and volume through infiltration
- Recharge and relationship to impervious surfaces

Quality
- Nitrates
- Nexus between extraction and saltwater intrusion
- Gama study levels included Sonoma Valley wells with traces of agricultural contaminants
- Impact on recharge of contaminants in floodwater that sits on land for period of time
- Long term trends and impacts of salinity

Supply
- Sources of SCWA water supply
- Identify small water agencies and their suppliers
- Allocation and water balance: are we over-allocated

Demands

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- Residential use volume and percentage of use
- Elements of demand by user
- Use percentage by use type (residential, etc.) Annual comparisons with population and weather factored in.
- Use by political boundaries (cities, etc.)
- Number of city wells and districts and users with emergency wells
- Long-term projections and changes with regards to climate change
- Drought and climate change plans
- Net run-off yields

Water Rights

- Effect on land owner's water rights if exchanging groundwater for other sources
- Requirements for agriculture to report use and how information is used

Storage

- Change over time for acres of surface storage and for recharge area
- Options and current laws

Reclaimed / Recycled Water

- Amount available
- Future projections
- Quality related to personal care products

Management Alternatives

- Using storm events for recharge
- How to implement alternative recharge bioswals (also French drains)
- Effects of reclaiming wetlands on recharge
- Methods to decrease demand
- Potential feasibility of aquifer storage and recovery in Sonoma Valley
- Feasibility of recycled water as a seawater intrusion barrier
- Landscaping demands and water conserved with xeriscape[1]
- Techniques to stop seawater intrusion
- Safety and effect of reclaimed water for recharge and other uses
- Effects of tiered billing programs

Misc

- Energy used for well pumping versus pumping wastewater

[1] A landscaping method developed especially for arid and semiarid climates that utilizes water-conserving techniques (as the use of drought-tolerant plants, mulch, and efficient irrigation)